



CCTV Equipment

With the right CCTV equipment and some help from your PC, you can create the perfect home security system – and it needn't cost the earth. We test cameras and systems that can help deter intruders

According to the Home Office, 2.7 per cent of households have experienced a domestic burglary or attempted burglary in the past year. But there are many security measures you can take to help reduce your chances of being a victim. Statistics show that 14.7 per cent of homes with no security measures were attacked, compared with 2.8 per cent of homes with some security measures and 1.3 per cent of the best-protected homes.

WATCH AND LEARN

Better locks and lighting can help deter or foil intruders. Of course, if the worst happens, these are of little use in helping you catch those responsible. One solution is to fit a simple CCTV system. Visible CCTV cameras can act as a deterrent to would-be burglars and a CCTV recording can paint a valuable picture of anyone who gets inside your home or business – even if it's pitch black at the time.

CCTV is now cheap enough for anyone to afford. A camera over your front door can cost as little as £70 including VAT. If you have a PC, you can turn it into a motion-triggered video recorder for less than £100. In this Labs we explain the different CCTV products available, and which are most suitable for your property and budget.

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X-Vision XV300E

WIRED CAMERA KIT

Brainz Day & Night Colour Camera Kit

WIRELESS CAMERAS

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WIRELESS CAMERA KIT

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CHOOSING A... CCTV SYSTEM

CCTV needn't be expensive, but given the range of products it can be hard to know where to start. We explain the types of camera available, how to pick the right one for you and how to record video on your PC

Common uses for CCTV cameras include seeing who is at your front door and keeping an eye on your car while it's parked outside. This usually involves mounting a camera on the outside of your home, so it's important that you choose one that can withstand the rain and cold of the British climate. In this review we've tested a number of weatherproof CCTV cameras, both wired and wireless.

If you want to position a camera indoors, both weatherproof and non-weatherproof models are suitable. Simple non-weatherproof cameras are often cheaper and smaller than those with weatherproofed housing.

ALRIGHT ON THE NIGHT

Another major consideration when choosing a camera is whether or not you need to view or record pictures at night. In certain environments, such as an office that's always lit, you may not need a camera that works in the dark. For most jobs, though, you'll need a camera that can see well even in the middle of the night.

Many of the security cameras in this Labs test have a night vision mode. When night falls the camera senses that it has insufficient light to work normally and switches to detect infrared light instead. By shining infrared light from a number of light-emitting diodes (LEDs) on the front of the camera, it can illuminate the field of vision and record it in black and white. The quality of these night recordings varies, so check our reviews and sample pictures to see which cameras produced a clear picture.

CABLE AND WIRELESS

You also need to decide whether you want a wired or wireless camera system. Wired cameras transmit analogue video down a thin cable.



▲ PCI cards such as the Swann PC DVR 4 NET can turn your PC into an inexpensive four-camera CCTV system

These usually terminate in a BNC connection, so you can plug them straight into a video recording card such as those reviewed on page 192. Many Swann cameras are terminated with a phono plug, which fits straight into the composite video input of many television sets, but to connect them to a recorder card you'll need an adaptor. These cost less than £3 from www.maplin.co.uk; search for part code FA11M.

Wireless CCTV cameras such as those reviewed on page 191 broadcast the video they capture as a radio signal. A receiver unit connected to your television or computer then decodes this signal. Only four standard wireless channels can be used to send video, so it's not easy to add more than four wireless cameras to a CCTV system. The video sent wirelessly by these cameras is not encrypted in any way, so anyone with a standard receiver unit can receive it. For this reason, wireless CCTV is suitable only for areas of your property that you'd be happy for strangers to view.

You should also be aware that wireless CCTV equipment transmits on the same frequency as wireless networking devices, so the two can interfere. While testing the Black Knight camera, our wireless network stopped working. By changing the channel the camera used, though, we were able to run the two simultaneously.

MOTION PICTURES

If you position a camera over your front door and connect it to your television, you'll be able to see who's standing on your doorstep whenever the bell rings. For most other purposes, you'll want to record the footage from your CCTV cameras. Unless you like fast-forwarding through hours of unchanging footage, though, you'll want to record only when people are moving around. The best way to do this is to monitor and record the cameras' output using your PC.

On page 192 we've reviewed three PCI cards that enable your computer to monitor and record CCTV footage. You can set these systems to record only when they detect movement, or according to a schedule that you set. There are no tapes to change, so you can leave these systems running for weeks on end. All three require a PC with at least an 80GB hard disk.

RECORD TIME

If you have an existing computer network, there are alternatives to traditional CCTV systems. On page 193 we've reviewed two IP cameras. These connect to your network and enable you to record and view footage on any networked computer. Both devices come with PC recording software, so you don't need a separate recording card. The Vivotek camera can even email its pictures to you if it detects something moving. Unfortunately neither IP camera has night vision, which makes them suitable for use only in well-lit areas.



▲ Wired cameras can come with BNC connectors for your PC, phono leads for your TV or no leads at all



▲ Infrared LEDs enable a camera to record images in the dark by flooding the scene with infrared light

HOW WE TESTED

We installed each CCTV camera in a living room, set it to record and then instructed a dubious character to steal a PlayStation 2 console located at the far end of the room. After he had escaped with his ill-gotten gains, we checked the video to see if we could make out a good picture of the thief. Having recovered the PlayStation, we followed the same procedure in a pitch-black room to simulate a night-time robbery. You can judge the results for yourself; the pictures taken in each test are included below the reviews.



REVIEW WIRED CAMERA

SWANN
DIY Security Camera

RATING ★★★★★

PRICE £50 inc VAT

SUPPLIER www.swann.eu.comDETAILS www.swann.eu.com

Swann's DIY Security Camera is tiny. It measures less than 30x30x30mm and has a small microphone built in. Its 2m cable plugs straight into a TV and has phono outputs for composite video and audio. It needs power from the supplied mains adaptor or a 9V battery. Although it feels sturdy, it's not fully weatherproof.

The camera comes with two lenses. Fitting its wide-angle lens produced one of the widest fields of view in the group, making it ideal for covering a large area indoors. In our daytime test the colours looked strange, but it still captured our intruder in plenty of detail. It has no infrared illuminators or night mode, so it failed to spot the intruder in our night test.

This is a simple, cheap camera that's ideal for indoor daytime use.

SPECIFICATIONS Indoor CCTV camera with audio, audio and composite video phono outputs, 2m cable, includes 9V battery adaptor

REVIEW WIRED CAMERA

SCT
Colour Camera TC111C

RATING ★★★★★

PRICE £57 inc VAT

SUPPLIER www.sctltd.co.ukDETAILS www.sctltd.co.uk

The TC111C is the cheapest of SCT's colour cameras. At around 75x40x50mm it looks like a baby professional CCTV camera. A mounting arm is included, but no 12V power supply, audio or video cables. It's suitable for indoor use only.

Its performance was reasonable.

Colours were more accurate than those of Swann's DIY Security Camera, but its picture was grainier and less detailed. It took a it failed to spot our night-time thief.

The TC111C works well enough in daylight and looks more professional than Swann's DIY Security camera, but we'd still recommend the latter. It's cheaper, works just as well and includes a power adaptor and all the cables you need.

SPECIFICATIONS Indoor CCTV camera with audio, BNC video and phono audio outputs, no cable or power adaptors supplied

REVIEW WIRED CAMERA

SWANN
DIY Outdoor Day
Night Camera

RATING ★★★★★

PRICE £70 inc VAT

SUPPLIER www.swann.eu.comDETAILS www.swann.eu.com

Swann's Day Night Camera comes in a metal housing with a visor and an adjustable mount. It's the cheapest wired camera in our test that's suitable for outside use, and it comes with a huge bundle of cable. A power adaptor is included, and the video lead connects to your TV.

The camera performed well in daylight. Its picture was a little too bright, resulting in washed-out colours, but it gave a clear picture of our thief. It switched into night mode as soon as we turned out the lights, but its infrared LEDs lit only the centre of our room. It took a picture of our thief, but it wasn't very good quality.

For the best day and night pictures from a wired camera, we recommend the XV300E. Having said that, this kit is the easiest to install.

SPECIFICATIONS Indoor CCTV camera with audio, audio and composite video phono outputs, 2m cable, includes 9V battery adaptor

REVIEW WIRED CAMERA

X-VISION
XV300E

RATING ★★★★★

PRICE £70 inc VAT

SUPPLIER www.y3kcctv.co.ukDETAILS www.y3kcctv.co.uk

X-Vision's XV300E camera looks unassuming in its silver case. It comes with an adjustable mount but no power adaptor. The camera is attached to 60cm of thick cable, so you can run this cable through an exterior wall and connect power and video cables inside.

The XV300E produced excellent results. Like several of the pricier cameras it tended to make brown shades, such as our thief's shirt, appear blue. It captured plenty of detail, though, including a good shot of our burglar's face. With the lights out it produced one of the brightest pictures, with a wide area of illumination. Our thief was clearly visible, even in the pitch black.

For £70 including VAT this is an extremely capable camera. You'll have to budget for a power adaptor and cable, but it's still great value.

SPECIFICATIONS Outdoor CCTV camera, night vision, BNC video output, includes 60cm video/power cable

REVIEW WIRED CAMERA KIT

BRAINZ
Day & Night
Colour
Camera Kit

RATING ★★★★★

PRICE £130 inc VAT

SUPPLIER www.sctltd.co.ukDETAILS www.sctltd.co.uk

This was the Best Buy in our last CCTV Labs (*Shopper* May 2005). The VS201 is a 55mm-long cylinder with a visor and is fully weatherproof. A 150cm cable is attached, and a 20m extension cable is included as well as a power adaptor.

We were impressed with the pictures in all our tests. In our daytime test, it produced a clear picture of our intruder, although like other cameras it made brown objects appear light blue. In our night test it produced a decent image of our thief, but its infrared illuminators couldn't quite match those of the XV300E.

This is a very good camera, but the XV300E is better at night and is also better value.

SPECIFICATIONS Outdoor CCTV camera, night vision, BNC/phono composite video output, includes 21.5m cable and power adaptor

REVIEW WIRED CAMERA

SWANN
C510R CCD
Professional

RATING ★★★★★

PRICE £130 inc VAT

SUPPLIER www.swann.eu.comDETAILS www.swann.eu.com

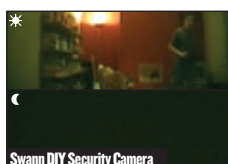
Swann's C510R looks professional and feels well built.

It has a sturdy metal body and accepts different lenses. It comes with a metal bracket for mounting on a wall and a 10m cable and power adaptor, although it's not weatherproof.

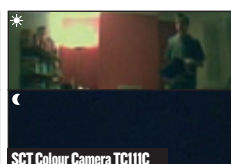
The C510 was one of several cameras to produce strange colours in our daytime test. This aside, it produced one of the best images of our thief, with quality on a par with that of the superb XV300E. By night, its results were less impressive. It produced a bright image of our darkened room, but our thief was blurry.

This is a good camera for indoor use and its serious appearance might act as a deterrent, but we prefer the cheaper XV300E.

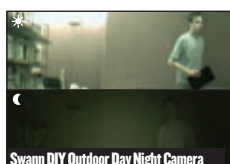
SPECIFICATIONS Indoor CCTV camera, night vision, BNC video output, includes 10m cable and power adaptor



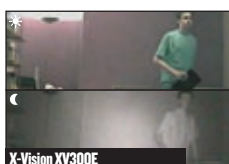
Swann DIY Security Camera



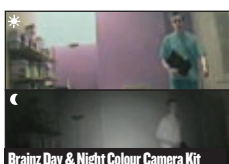
SCT Colour Camera TC111C



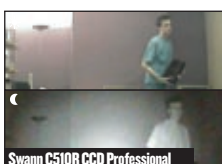
Swann DIY Outdoor Day Night Camera



X-Vision XV300E



Brainz Day & Night Colour Camera Kit



Swann C510R CCD Professional



REVIEW WIRELESS CAMERA

X-VISION Wireless Colour Camera XWLIR



RATING ★★★★★

PRICE £58 inc VAT

SUPPLIER www.y3kcctv.co.uk

DETAILS www.y3kcctv.co.uk

X-Vision's XWLIR costs £58 including VAT but needs a separate receiver, which costs £34. It's suitable for outdoor use but has only a 14cm power cord. We'd prefer at least 60cm to allow the power adaptor to be connected indoors. A mount is included, and you can select between three channels using a hidden switch.

We received a good picture with sound from up to two rooms away, but beyond that the picture was poor. In our day test the camera produced a greenish but acceptable picture, although it had a narrow field of view. At night, only the centre of the picture was adequately lit.

It's not perfect, but this is a cheap way of adding a wireless camera to your network.

SPECIFICATIONS Wireless outdoor CCTV camera with audio, night vision, power supply included, requires one 2.4GHz receiver per camera

REVIEW WIRELESS CAMERA

SWANN Microcam 3



RATING ★★★★★

PRICE £150 inc VAT

SUPPLIER www.swann.eu.com

DETAILS www.swann.eu.com

The Microcam 3 is tiny, measuring less than 25x25x25mm, and has a 25mm aerial. It comes with a stand, mains and battery power adaptors and a four-channel wireless CCTV receiver. This can connect to your TV through phono or SCART, or to a PC recording card. The camera is fixed to work only on wireless channel three.

The range was similar to that of the XWLIR. It worked well from two rooms away and sent a signal from our front door to the first floor. In our daytime test, it produced accurate colours but a slightly dark and blurry picture. Nonetheless, it gave a decent image of our intruder. There is no night mode so it's useless in the dark.

This kit includes everything you need to set up a neat indoor camera with sound, but for most uses a weatherproofed camera with night vision would be more useful.

SPECIFICATIONS Wireless indoor CCTV camera with audio, includes power supply, battery adaptor, cables and 2.4GHz receiver

REVIEW WIRELESS CAMERA

SWANN Black Knight



RATING ★★★★★

PRICE £170 inc VAT

SUPPLIER www.swann.eu.com

DETAILS www.swann.eu.com

Swann's Black Knight looks and feels expensive. It's weatherproof, with a large metal visor, and has a highly adjustable stand that pivots in two places. A four-channel receiver is included, and the camera can be set to run on any of these four frequencies. A 20cm power cable is attached to the camera, and a power adaptor is included.

The Black Knight's signal range was no better than those of the other wireless cameras, but it produced better images. In the daytime, its colours were slightly inaccurate but the picture was clear and we got a good image of our intruder's face. By night, it produced a brighter picture than the other wireless cameras and we got a good look at our burglar in the dark room.

If you need a good wireless camera with night vision, this is the best choice. It is rather expensive, though.

SPECIFICATIONS Wireless outdoor CCTV camera with audio, night vision, includes power supply, cables and 2.4GHz receiver

REVIEW WIRELESS CAMERA KIT

SWANN Outdoor Wireless 2 Camera Kit

RATING ★★★★★

PRICE £200 inc VAT

SUPPLIER www.swann.eu.com

DETAILS www.swann.eu.com



As well as selling individual cameras, Swann produces ready-to-install CCTV kits. We tested the two-camera wireless kit, but a four-camera version is available for £300 including VAT. This kit includes two wireless 'night hawk' cameras. These are weatherproof, so you can use them outside without risk of damage from the rain. The cameras have 20cm power leads and the kit includes mains power adaptors and connectors for 9V batteries.

Like the Black Knight camera reviewed above, both cameras can be adjusted to work on any of the four wireless CCTV frequencies. Changing the channel involves unscrewing the camera housing and adjusting two tiny dip-switches hidden near the lens, though, so it's a good idea to work out which channels you want to use before you fix each camera in place.

Unlike the other Swann wireless CCTV products, both of which come with a small receiver that's roughly the size of a packet of cigarettes, this kit includes a large receiver that's designed to sit on top of your television. It has a large fold-up aerial and an LED that shows which channel is being monitored. A small remote control enables you to switch between channels. It comes with a power adaptor and connects to your TV using a SCART or a composite video phono socket.

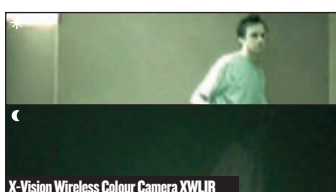
The receiver itself has only one button. Pushing this starts it cycling through all four channels in turn. This works well if you have four cameras connected, but when using only the two included in the box you get two CCTV pictures interspersed with

empty channels full of white noise. It's a shame you can't disable the channels you're not using. A better solution is to use the remote control, which allows you to select a channel by number. This kit isn't ideal if you want to use a PC to record the video from your cameras, as you'll need to buy a second receiver to record from both cameras at the same time.

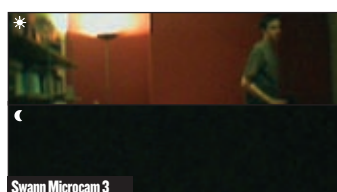
The cameras produced acceptable images. In our day test, they captured a decent picture of our would-be thief, although the whole image had a slightly green tint and looked a little washed-out. They were less impressive at night, however. The camera's infrared illuminator lit only the centre of the frame adequately, so our burglar looked more like a ghost than an identifiable figure. You'd have to position the cameras very carefully to make sure they illuminated the areas you need.

This kit will suit some but not all users. If you want a cheap two-camera CCTV system that records your security footage to a computer, we'd recommend you buy two XWLIR cameras and two separate receivers instead. If, however, you want to monitor your cameras through a TV, this is a simple way to do so.

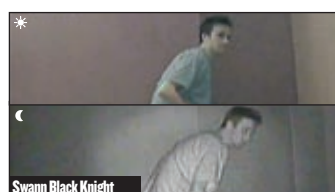
SPECIFICATIONS Two wireless outdoor CCTV cameras with audio, night vision, includes power supplies, battery adaptors, cables and 2.4GHz receiver, SCART/composite video phono and phono audio outputs



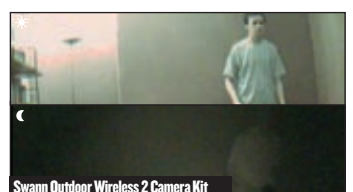
X-Vision Wireless Colour Camera XWLIR



Swann Microcam 3



Swann Black Knight



Swann Outdoor Wireless 2 Camera Kit



REVIEW PCI CAPTURE CARDS

SWANN
PC DVR 4 NET

RATING ★★★★★

PRICE £99 inc VAT

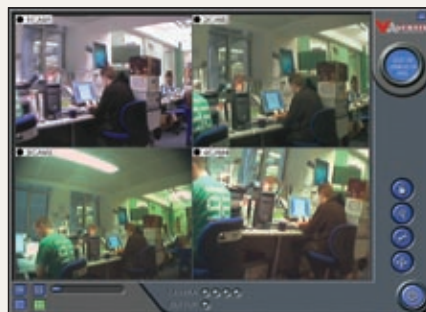
SUPPLIER www.swann.eu.comDETAILS www.swann.eu.comVOLTEK
DVC3004

RATING ★★★★★

PRICE £99 inc VAT

SUPPLIER www.voltek.co.ukDETAILS www.voltek.co.uk

When we last reviewed CCTV products, Swann's PC DVR 4 NET was our Best Buy. Since then its price has increased slightly, so we thought we'd compare it with Voltek's similarly priced DVC3004. On installing the two cards, we found they were identical. Both use the same PCI card and the same software, and both cost £99 including VAT.



The PCI card has four BNC video connectors. These will connect directly to most CCTV camera cables, but you might need a phono-to-BNC adaptor for some Swann cameras. The card and software installed without any problems. We were pleased to see that although it ran in a 1,024x768-pixel window, it didn't force us to resize our display resolution to match.

The software can display up to four cameras simultaneously. Its interface isn't the best looking we've seen, but it's easy to access the recorded footage and system settings. You can schedule recordings at a set time or set up motion detection to trigger a recording if someone moves across a

certain area. The scheduler works on a weekly basis rather than using specific dates, which should suit most home and small business users.

The software includes a simple network interface, so you can monitor cameras from another PC on the network. This works, but it means installing several unsigned ActiveX components on the viewing PC. To do this, you have to reduce Internet Explorer's security settings significantly. The network interface allows you to monitor live footage or view recorded events.

Viewing recorded footage is easy enough thanks to a timeline interface. Colour coding indicates whether a recording was scheduled, manually activated or triggered by motion detection. It may not be as cheap as it used to be, but this is still a simple and impressive tool that includes all the features you could need.



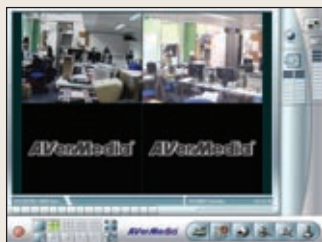
All the features you'll need; easy to use



Not as highly specified as the NV3000

SPECIFICATIONS Four-channel PCI capture card, four BNC inputs. Requires Windows 2000/XP, Direct X 9.0, 800MHz Pentium III processor or above, 80GB hard disk

REVIEW PCI CAPTURE CARD

AVERMEDIA
Eyes Pro

RATING ★★★

PRICE £93 inc VAT

SUPPLIER www.sctltd.co.ukDETAILS www.averm.co.uk

Eyes Pro is the cheapest of AVerMedia's surveillance products, and it's also the least expensive card in this test. Like the Swann and Voltek cards, it has four BNC network connectors for cameras. The back panel also holds a 15-pin connector that allows you to link up external motion sensors and relays.

Setting up the Eyes Pro is a little more difficult than the Swann or Voltek cards as you must install the drivers first. On running the software for the first time, we were disappointed to see an ugly, dated-looking interface. Installing a newer version that we downloaded from the AVerMedia website spruced it up significantly. The software runs only at a screen resolution of 1,024x768 pixels. According to AVerMedia, Hyper Threading must be disabled if you are running Windows 2000. Computers with Via, SiS or ALI chipsets are not supported.

We first plugged in a single camera to make sure everything worked properly. Unfortunately, this produced a white screen with interference. According to AVerMedia's website, this was because we had enabled all four camera inputs but installed only one camera. This seems rather a security risk: if three of four cameras were to fail, or an intruder were to disconnect them, the one remaining camera would be incapable of recording useful video.

The Eyes Pro software interface includes all the same options as the Voltek and Swann cards, so you can set cameras to record according to a schedule or when they detect motion. The interface is clunky, though, and it took a while to find all the submenus we needed to set up our recordings. The playback tool that Swann and Voltek include is far easier to use than this one.

Eyes Pro is cheap, but we recommend that you spend a little more and buy the Swann or Voltek cards instead.



Cheap; has all the options you'll need



Awkward interface

SPECIFICATIONS Four channel PCI capture card, four BNC inputs. Requires Windows 2000/XP, 800MHz Pentium III processor or later, 256MB RAM, 80GB hard disk, supported motherboard chipset

REVIEW PCI CAPTURE CARD

AVERMEDIA
NV3000

RATING ★★★★★

PRICE £141 inc VAT

SUPPLIER www.sctltd.co.ukDETAILS www.averm.co.uk

The NV3000 costs around £40 more than the other two cards reviewed in this test. It has four BNC video inputs and a single output for a TV monitor. We were slightly annoyed to see that, unlike the two cheaper cards, no full paper manual is supplied in the box. The latest software from the AVerMedia website failed to install properly, so after an hour of fiddling with drivers we gave up and used the software provided on the CD.

With one camera installed, we were disappointed to see that it produced a white screen in the same way the Eyes Pro did. You can fix this by adding more cameras or disabling the other three inputs, but we prefer the way the Swann and Voltek cards worked, with just one camera running correctly. As with the Eyes Pro, this card will not work on computers using SiS, Via or ALI chipsets, and Windows 2000 users must disable Hyper-Threading. The software will run only at 1,024x768 resolution.

The NV3000's interface is a significant improvement over that of the cheaper Eyes Pro. The video playback tool is superior and makes it much easier to flick through footage recorded earlier. The settings menus are easier to use than those of the Eyes Pro and the scheduler, which works in one-hour blocks, is a great improvement. This is the only card in the group that can integrate with point-of-sale (POS) systems for use in a shop.

All three cards in this group include utilities for viewing from a networked computer, but the NV3000's is easily the best. It's easy to use and allows you to view previously recorded footage. This is a great CCTV surveillance card, but for most users the cheaper Voltek and Swann cards are just as useful.



Good interface; excellent network functions



Requires 1,024x768 resolution; manual in PDF only

SPECIFICATIONS Four-channel PCI capture card, four BNC inputs, one composite video output. Requires Windows 2000/XP, 1.8GHz Pentium 4 processor or later, 256MB RAM, 80GB hard disk, supported motherboard chipset



REVIEW IP CAMERA

D-LINK
DCS-900

RATING ★★★★★

PRICE £77 inc VAT

SUPPLIER www.broadbandbuyer.co.ukDETAILS www.dlink.co.uk

If you want to fit a security camera in an area that's already networked, an IP camera such as D-Link's DCS-900 could be ideal. The DCS-900 connects to a wired Ethernet network, and contains a tiny web server that broadcasts video across the network.

Setting the camera up is easy. We plugged it into our test network, connected the power supply and ran the install CD on a networked PC. This installs a small setup utility that locates the camera on the network. Clicking the Link button opens the camera's interface in your web browser. This enables you to view live video from the camera using either an ActiveX control suitable for Windows users or a Java tool for other systems. Another button starts the camera's configuration utility. The camera can be assigned an IP address manually or set to lease one from a DHCP server or router.

The camera can broadcast video at two resolutions: 320x240 and 640x480. Both were impressively smooth in our tests. The image quality at high resolution surpassed all the CCTV cameras in the test.

To use the camera for surveillance, you'll need to install the IP View Light software. This allows you to schedule recordings and set cameras to record when they detect motion. This worked well, but you can't specify which areas of the picture are used for motion detection.

Overall, the DCS-900 is a mixed bag. It's useless for monitoring at night and it isn't as clever as the XIP101, but as a camera and recording system for under £80 it's a bargain.

✓ Extremely cheap camera with recording software

✗ Requires a monitoring PC for motion detection; no night vision

SPECIFICATIONS IP camera, 640x480 resolution, 10/100 Ethernet interface. Software requires Windows 98 SE/Me/2000/XP, 450MHz Pentium III processor, 128MB RAM

REVIEW IP CAMERA

VIVOTEK
XIP101

RATING ★★★★★

PRICE £176 inc VAT

SUPPLIER www.y3kcctv.co.ukDETAILS www.vivotek.com

Vivotek's XIP101 costs more than twice as much as D-Link's DCS-900, but it has several advantages. It connects to 802.11g wireless networks and can use WEP or WPA-PSK security. So unlike the wireless CCTV cameras reviewed on page 191, the pictures this camera sends are extremely difficult to intercept.

Setting up the XIP101 is straightforward. After we had plugged it into our wired network, it leased an address from the router. Opening this address in Internet Explorer showed the camera's picture and configuration pages. The XIP101 has several clever security functions. It has customisable motion detection, so you can choose to watch for movement in a particular area of the picture. When it detects motion, the camera can be set to email you photos or upload pictures to a remote FTP server. This allows you to monitor a room without the need for a PC to record the results.

The camera also works with the DynDNS.org Dynamic DNS service, so putting the camera on the internet takes just a minute or two. The Vivotek recording software lets you record to your hard disk when motion is detected and view multiple cameras onscreen at once.

The camera has to be focused manually, but picture quality is adequate for monitoring an office or a room at home. However, with no infrared illuminators or light source it'll be of little use in the dark. It's a great camera, but many home users will probably be tempted by the amazingly cheap D-Link DCS-900 instead.

✓ Can detect motion and email pictures without help from a PC

✗ No night vision; works only with ActiveX browsers

SPECIFICATIONS IP camera, 640x480 resolution, 10/100 Ethernet and 802.11g interfaces. Requires Internet Explorer 5 or above. Software requires Windows 98 SE/Me/2000/XP, 1.7GHz processor, 256MB RAM

LABS VERDICT CCTV EQUIPMENT

Many of the products in this month's test impressed us, and several are excellent value. Which one you buy depends on the kind of area you want to secure and how you would prefer to monitor it.

If you already have an Ethernet network and you don't need to monitor in the dark, D-Link's DCS-900 IP camera is great value. You can use it to watch live video or use its software to record whenever motion is detected. It wins a Best Budget Buy award. The Vivotek XIP101 costs more, but it's wireless and works without a PC, emailing you pictures of anything that moves.

If you don't have an existing network, or you want to monitor outside or in the dark, you'll need

a traditional CCTV system. CCTV cameras can be monitored on a TV or recorded on a VCR, but for an intelligent motion-capture system you'll need a video capture card. We recommend Swann's PC DVR 4 NET or Voltek's identical DVC3004. Both cost just £99 including VAT and provide all the tools you need to record footage from up to four cameras. Both receive our Best Buy award.

As well as a monitoring card, you'll need one or more cameras. If you want to monitor outdoors or in the dark and you can run a cable between the camera and your computer, the best choice is X-Vision's XV300E. It's well priced and produces decent pictures by day or at night. This camera wins a Best Buy award. The Brainz Day &

Night Colour is also good and comes in a convenient kit, but it's more expensive.

If you don't want to run wires and the area you're monitoring isn't private, a wireless camera and receiver might be a neater solution. For the best image quality, we recommend Swann's Black Knight. It's sturdily made, includes a receiver and produces good images day and night. It would be ideal for watching over your front door or car, but at £170 including VAT it's expensive. X-Vision's XWLIR isn't as good in the dark, and you'll need to buy a separate receiver, but it costs less than £60 including VAT. If you plan to use several wireless cameras in your security system, it's a great choice. It wins a Best Budget Buy award. **CS**

WIRED CAMERA

X-VISION
XV300E

WIRELESS CAMERA

X-VISION
Wireless Colour
Camera XWLIR

IP CAMERA

D-LINK
DCS-900

PCI CAPTURE CARD

SWANN
PC DVR 4 NET

PCI CAPTURE CARD

VOLTEK
DVC3004